

CLAIMS

What is claimed is:

1. A lock comprising:

a lock cylinder body having a wall member that defines an interior cavity and a first that is generally parallel to a longitudinal axis of the interior cavity; and
a plug assembly at least partially received in the lock cylinder body, the plug assembly including:

a plug having a central cavity, a keyway that is generally aligned to a longitudinal axis of the central cavity, a lock bar slot that intersects the central cavity, and a guide bar slot that intersects the central cavity and which is located opposite the lock bar slot;

a lock bar that is movable along a first axis between a first position and a second position, at least a portion of the lock bar extending outwardly of the plug into the first groove when the lock bar is in the first position, the lock bar including at least one lock element that travels from the lock bar slot into the central cavity when the lock bar is moved from the first position to the second position;

a guide bar received in the guide bar slot and movable relative to the plug between a radially inward position and a radially outward position;

a plurality of first pin members disposed in the central cavity and bounding an upper side of the keyway, the first pin members being individually movable in a first direction that is generally transverse to the

first axis, the first pin members also being coupled to the guide bar so as to be collectively movable with the guide bar when the guide bar is moved into the radially outward position; and

a plurality of second pin members received in the central cavity, each of the second pin members including a mating lock element and being coupled to a respective one of the first pin members when the guide bar is in the radially inward position, each of the second pin members being uncoupled from the respective one of the second pin members when the guide bar is in the radially outward position;

wherein insertion of a mating key into the keyway causes the first and second pin members to translate in a direction that is generally transverse to the first axis such that the mating lock elements are aligned to the at least one lock element on the lock bar so that the lock bar may translated to the second position to thereby permit the plug assembly to be rotated relative to the lock cylinder body; and

wherein the mating key may be removed from the plug assembly when the guide bar is positioned in the radially outward position.

2. The lock of Claim 1, wherein the a second groove is formed in the wall of the lock cylinder body, the second groove being generally parallel to the longitudinal axis of the interior cavity, wherein rotation of the plug assembly through a predetermined angle aligns the guide bar to the second groove.

3. The lock of Claim 2, wherein a bridge intersects the second groove and the guide bar includes a setting cam that contacts the bridge when plug assembly is initially rotated through the predetermined angle and wherein contact between the setting cam and the bridge maintains the guide bar in the radially inward position when the guide bar is radially aligned to the second groove.

4. The lock of Claim 3, wherein translation of the guide bar such that the setting cam is disengaged from the bridge and disposed in the second groove permits the guide bar to be translated into the radially outward position.

5. The lock of Claim 1, wherein each of the second pin members includes a plurality of teeth that are meshingly engaged by the respective first pin members when the guide bar is located in the radially inward position.

6. The lock of Claim 5, wherein the lock bar maintains the second pin members in a stationary condition when the first pin members are collectively disengaged from the second pin members through the positioning of the guide bar in the radially outward position.

7. The lock of Claim 1, wherein each of the first pin members includes a contact member for engaging a key profile of the mating key.

8. The lock of Claim 1, wherein the contact member is a ball.

9. The lock of Claim 1, wherein each of the first pin members includes a leg that is received into an associated aperture that is formed in the guide bar.

10. A method for re-keying a lockset comprising:

providing a lockset having a lock cylinder body and a plug assembly, the plug assembly including a plurality of first pin members and a plurality of second pin members, each of the first pin members being coupled to an associated one of the second pin members to inhibit relative translation therebetween along a first axis;

inserting a first key with a first key profile to the plug assembly to align the second pin members in a predetermined orientation;

rotating the plug assembly relative to the lock cylinder body to maintain the second pin members in the predetermined orientation;

uncoupling the first pin members from the second pin members to permit relative translation therebetween along the first axis;

removing the first key from the plug assembly;

inserting a second key with a second key profile to the plug assembly to reposition at least one of the first pin members relative to a respective one of the second pin members along the first axis, the second key profile being different than the first key profile;

re-coupling each of the first pin members to the associated one of the second pin members to thereby inhibit relative translation therebetween along the first axis.

11. The method of Claim 10, wherein the plug assembly is rotated through a predetermined angle relative to the lock cylinder body prior to uncoupling the first pin members from the second pin members.

12. The method of Claim 11, wherein rotation of the plug assembly through the predetermined angle radially locates a guide bar to a groove that is formed in the lock cylinder body and wherein uncoupling the first pin members from the second pin members is effected by moving the guide bar into the groove.

13. The method of Claim 12, wherein the plug assembly includes a plug and wherein the guide bar is moved into the groove when a tool that is inserted through a face on the plug is employed to push the guide bar in a direction that is generally parallel to a longitudinal axis of the plug assembly.

14. The method of Claim 12, wherein maintenance of the second pin members in the predetermined orientation is effected through engagement of a lock bar to the second pin members.

15. A method for re-keying a lockset comprising:

providing a lockset having a lock cylinder body and a plug assembly, the plug assembly including a plurality of first pin members and a plurality of second pin members, each of the first pin members being coupled to an associated one of the second pin members to inhibit relative translation therebetween along a first axis;

positioning the second pin members in a predetermined orientation;

uncoupling the first pin members from the second pin members to permit relative translation therebetween along the first axis;

inserting a key with a desired key profile to the plug assembly, the desired key profile being operable for repositioning at least one of the first pin members relative to a respective one of the second pin members along the first axis; and

re-coupling each of the first pin members to the associated one of the second pin members to thereby inhibit relative translation therebetween along the first axis.

16. The method of Claim 15, wherein a key with a mating key profile is initially employed to position the second pin members in the predetermined orientation.

17. The method of Claim 16, wherein maintenance of the second pin members in the predetermined orientation is effected through engagement of a lock bar to the second pin members.

18. The method of Claim 15, wherein prior to uncoupling the first pin members from the second pin members, the plug assembly is rotated through the predetermined angle relative to the lock cylinder body.

19. The method of Claim 18, wherein placement of the plug assembly at the predetermined angle relative to the lock cylinder body radially locates a guide bar to a groove that is formed in the lock cylinder body and wherein uncoupling the first pin members from the second pin members is effected by moving the guide bar into the groove.

20. The method of Claim 19, wherein the plug assembly includes a plug and wherein the guide bar is moved into the groove when a tool that is inserted through a face on the plug is employed to push the guide bar in a direction that is generally parallel to a longitudinal axis of the plug assembly.